PULP & PAPER

March 1984

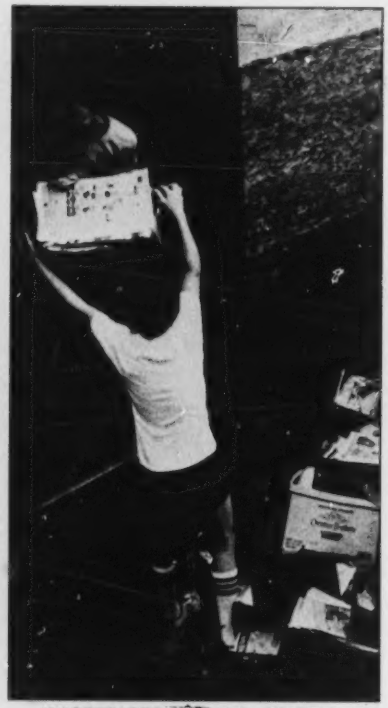
C3775-2 3/2/84

RECYCLING:
Fine tuning the process

STOCK PREPARATION:
Benefits of high-consistency operation

PULP & PAPER

Volume 58 Number 3 March 1984



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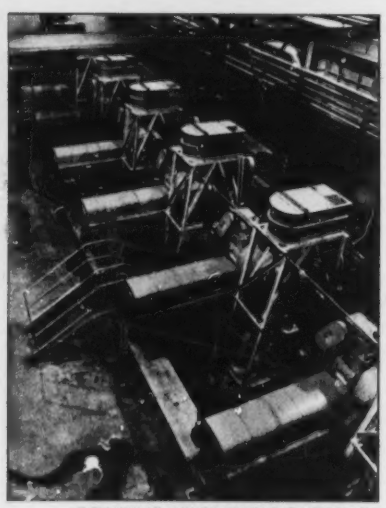

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COVER: *Recent developments in recycling have focused on process refinements for improved efficiency, lower production costs. Along with recycling, this issue also highlights current trends in the stock preparation area. (Photo courtesy of Sonoco Products Co.)*

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ABP

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BPA

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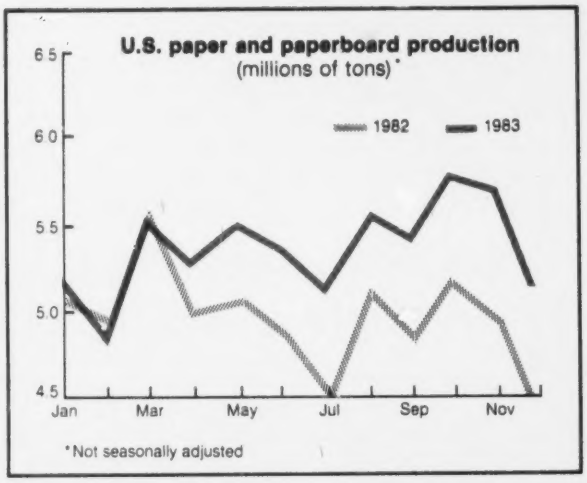
U.S. paper and paperboard production in December totaled 5.14 million tons, establishing a new record for the month and capping what was by far the highest second-half production rate in history, according to the American Paper Institute. The December level was up 18.7% from December 1982. The fourth-quarter average of seasonally adjusted data stood at 68.0 million tpy, bringing total paper and paperboard production for 1983 to a record 64.8 million tons, up 9.0% from 1982 and up 4% from the previous record set in 1981.

Among major grades, the largest gains for the year were in the printing/writing grades, up 11% from 1982, and in tissue and miscellaneous packaging grades. Linerboard, up 23.7% in December from 1982, and recycled board, which jumped 22.4% in December, led the way among the paperboard grades. Corrugated box shipments totaled 252.9 billion ft² in 1983, setting a new record, according to the Fibre Box Assn.

Canadian newsprint shipments in December of 725,000 metric tons were down 2.6% compared to 1982, according to Canadian Pulp & Paper Assn. figures. Newsprint mill operating rates were 88% for the month, up from 71% in December 1982.



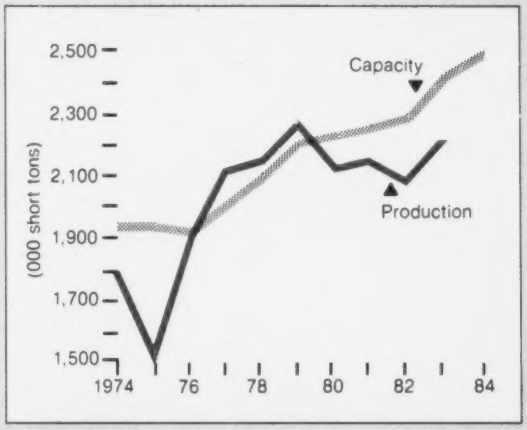
		Latest month (000 short tons)	% change from year ago	Annualized year-to-date (000 short tons)	% change from year ago
PAPER & PAPERBOARD PRODUCTION					
Newsprint	December	424	16.8	5,176	2.7
Uncoated groundwood (s)	December	126	6.8	1,515	3.9
Coated paper (s)	December	476	19.3	5,723	13.7
Uncoated free sheet (s)	December	704	17.7	8,680	10.6
Unbleached kraft packaging and industrial (s)	December	301	11.5	3,792	2.8
Tissue	December	385	11.6	4,787	7.9
Total paper	**December**	**2,671**	**16.6**	**32,878**	**8.1**
Kraft linerboard, unbleached	December	1,132	23.7	15,007	11.2
Semichemical medium	December	384	17.1	4,731	7.8
Bleached paperboard	December	307	14.6	3,918	6.9
Recycled paperboard	December	568	22.4	7,234	11.7
Total paperboard	**December**	**2,463**	**21.0**	**31,951**	**9.9**
Total paper and paperboard*	**December**	**5,135**	**18.7**	**64,829**	**9.0**
PULP, CONSUMPTION & USE					
Total woodpulp production	November	4,545	10.3	52,856	5.8
Market pulp production	November	585	14.3	6,505	11.5
Wastepaper consumption at paper/board mills	November	1,260	13.7	14,428	6.7
Pulpwood consumption (cords)	November	7,267	5.5	85,856	7.7
CORRUGATED PRODUCTS STATISTICS					
Corrugated box shipments (billion ft²)	December	19.960	13.8	252.900†	7.5
Containerboard inventories at box plants	Dec. 1	2,415	4.9		
INTERNATIONAL TRADE					
U.S. paper imports (including products)	November	854	18.3	8,958	10.7
Imports of Canadian newsprint	November	622	9.9	6,831†	4.6
U.S. paper exports (including products)	November	404	31.2	4,591	7.9
Exports of unbleached kraft linerboard	December	168	23.5	2,163	12.0
Exports of woodpulp	November	252	2.0	3,556	4.8
CANADIAN STATISTICS (reported in metric tons)					
Total newsprint shipments	December	725	−2.6	8,441†	4.6
Operating rates	December	88%	71%	85%	82%
Inventories held by U.S. consumers	Dec. 31	1,194	−5.9		
Woodpulp shipments (export only)	December	715	39.4	6,795†	16.7
Operating rates	December	85%	62%	85%	76%

1. American Paper Institute. 2. API, Bureau of Census, American Pulpwood Assn. 3. Fiber Box Assn., Paperboard Packaging Council. 4. Canadian Pulp & Paper Assn.
*Includes construction and wet machine grades. †Not annualized. ‡Not directly comparable to year ago because of coding change. (s) = shipments.

Coated free-sheet papers:
Tight market seen through '84

Statistics:	1982	1983	1984e
Production, 000 tons[1]	2,090	2,210	2,340
Capacity, 000 tons[2]	2,274	2,402	2,487
Utilization rate, %	91.9	92.0	94.1
Imports, 000 tons	12	25	35
Exports, 000 tons	47	45	36
Apparent U.S. consumption			
000 tons	2,055	2,190	2,339
lb/capita	17.78	18.77	19.86
000 tons/$ billion real GNP (1972)	1.38	1.42	1.46

e = estimated 1. *P&P* estimates. 2. API capacity survey.



Estimated 1984 capacities of major U.S. companies are:

	Annual capacity (000 tons)	Capacity share (%)
1. Scott Paper[1]	525	21.1
2. Westvaco	420	16.9
3. Champion International	357	14.4
4. Mead	300	12.1
5. Consolidated Papers	190	7.6
6. Potlatch[2]	150	6.0
7. Simpson Paper	123	4.9
8. Midtec Paper	100	4.0
9. Boise Cascade	54	2.2
10. Wattervliet Paper	42	1.7
11. P. H. Glatfelter	40	1.6
12. Plainwell Paper	40	1.6
13. James River	35	1.4

1. S.D. Warren Div.
2. Northwest Div.

U.S. capacity (1984): 2.487 million tons
Capacity share of top five companies: 72.1%
Capacity share of top ten companies: 90.9%

GRADE STRUCTURE: Coated free-sheet paper consists of paper made from 10% or less groundwood pulp, with the balance made up of chemical pulp. Grades included in coated free sheet include Nos. 1-3 and about 52% of No. 4 output. Some No. 3 coated includes small amounts of groundwood, but the top two grades are made from 100% chemical pulp.

Most of the Nos. 3 and 4 grades fall between 45 lb and 90 lb in basis weight. The Nos. 1 and 2 grades generally fall in the 60-lb-to-100-lb range. End uses for coated free sheet are largely in commercial printing, although as much as a fifth of No. 3 goes into books and magazines. Most of the almost 400,000 tpy of coated-one-side paper is coated free sheet. Coated paper comes in finishes that include glossy, dull, matte and embossed. Magazine paper tends to be glossy, while dull and matte are used for book and commercial printing end uses. Embossed tends to be for fancy printing jobs and makes up less than 2% of shipments in any grade.

Glossy paper is considered to have a gloss level of 45 and over on the Gardner gloss meter. The gloss level of dull falls between 25 and 35, and matte is about 0 to 20. One industry survey reportedly shows that about 65% of all coated-two-sides No. 1 is glossy and 35% is dull, with the balance in matte and embossed; for No. 2 the spread goes to 80% and 16% for glossy and dull, respectively; and for No. 3 it is about 63% glossy, 3% dull, and 33% matte.

PRODUCTION/CAPACITY: Output of coated free sheet has shown less growth in recent years than coated groundwood but did jump 5.7% in 1983 according to *Pulp & Paper* estimates (American Paper Institute does not release production figures for coated free sheet). Scott Paper Co. started up a 200,000-tpy machine at Skowhegan, Maine, in 1983, the first new unit to come online since Midtec Paper Corp. started up a groundwood/free-sheet swing machine in 1980. Capacity is expected to rise by just 5.1% between 1984 and 1986.

OUTLOOK: Markets are expected to continue strong through 1984 with the exception of a lighter than normal seasonal midyear slowdown. The economic recovery has sparked healthy demand for advertising and promotional materials, and allocations in place for most of the last year should force consumers to build inventories when current tightness lessens. Supplies will be helped as Scott's new machine approaches design speed and begins to reach the No. 3 markets it was intended for. Demand continues strong in the new super-premium papers where domestic producers have begun to compete more effectively with European imports.

PRICES: Pricing for all grades was strong in early 1984, and discounting that plagued No. 3 rollstock in late 1982 and early 1983 had not reappeared. Average prices rose by about 4.5% to 6.5% in 1983. Typical pricing trends ($/short ton) are, for 70-lb No. 1 sheets: 1978, 880; 1979, 939; 1980, 1,021; 1981, 1,096; 1982, 1,148; 1983, 1,225. For 60-lb No. 3 rolls: 1974, 574; 1975, 570; 1976, 619; 1977, 675; 1978, 698; 1979, 749; 1980, 841; 1981, 898; 1982, 928; 1983, 970.

MARKETS: The largest share of coated free sheet goes into commercial printing. More than 80% of all Nos. 1-3 is sold directly to commercial printers, for example. Major markets for No. 4 include commercial printers and book and magazine publishers, with insignificant amounts going elsewhere. More than 80% of all coated-one-side paper goes to label and wrap manufacturers.

(News section continues on page 23)

SALES & EARNINGS

U.S. paper industry turns around in 1983

On the strength of improved prices and continued high volumes for most grades, U.S. pulp and paper companies put the recession behind them in the fourth quarter of 1983, posting profits of $404.8 million—a six-fold increase over the dismal 1982 fourth quarter, according to a *P&P* survey of 22 companies. Earnings also improved compared to the third quarter, rising 20.6%. Sales of $8.1 billion were up 15.7% from the 1982 quarter and 7.1% from the third quarter. For the year as a whole, net income totaled $1.3 billion, a gain of 40.4% over 1982, on sales of $29.8 billion, up 9.2% from the previous year.

U.S. forest products companies reported a ten-fold increase in net income for the fourth quarter compared to depressed year-earlier results, according to the financial reports of seven companies. For the year, forest products companies improved their earnings by 89.5% compared to 1982—a gain which might have been even higher if prices for building products had not plummeted last fall.

'Milestone' for IP. International Paper Co. reported net income for the year of $254.9 million, up 58.5% from depressed levels in 1982, but 1983 earnings included pretax gains of $123.7 million from the sale of land and timber. Fourth-quarter net income of $68.7 million was up 152.6% from the year-earlier quarter. "The fourth quarter of 1983 was an important milestone for the paper industry and for International Paper Co.," said Edwin A. Gee, chairman and CEO. "The industry has benefited from the improving economy and higher capacity utilization rates."

Crown Zellerbach Corp.'s net income of $87.8 million for the year was up almost six-fold from 1982. "We're starting the new year with very positive feelings," said William T. Creson, chairman, president and CEO. "In 1982, we were primarily concerned with repositioning the company. In 1983, we began meeting our expectations and setting the stage for a much-improved 1984." St. Regis Corp. reported fourth-quarter earnings of $13.1 million against a loss of $49.1 million in the year-earlier quarter. "The fourth quarter was the first time this year that all of our business segments were in the black," commented William R. Haselton, chairman and CEO. "The volume growth we saw in our paper products in the second half of the year, coupled with price increases in our major lines, resulted in appreciable improvement in net sales and profits from operations." For the year, St. Regis earned $55.2 million, a gain of 22.5% over the year before. Sales were up 8.6% to $2.8 billion.

White paper led the recovery for Mead Corp., according to Burnell R. Roberts, chairman and CEO. For the year, the company posted a gain of $30 million, up from a loss of $61.7 million in 1982. Union Camp Corp. announced profits for the year of $132.7 million, up 7.0% over 1982.

Among tissue producers, Scott Paper Co. announced 1983 earnings of $123.7 million, up 66.1% from the year before. Fort Howard Paper Co. reported record sales and earnings for the year, with net income of $107.0 million up 15.8% from 1982. Kimberly-Clark Corp.'s earnings for the year totaled $188.8 million, down 4.4% from 1982.

Big gains for wood products. All of the forest products companies surveyed reported earnings up from depressed year-earlier levels. Georgia-Pacific Corp. announced earnings of $105 million for the year, up 101.9% from 1982.

Weyerhaeuser Co. posted net income of $204.8 million for the year, a rise of 21.3%. Champion International Corp.'s 1983 earnings were $82.2 million, an increase of 107.2% over 1982. Boise Cascade Corp.'s 1983 earnings amounted to $60.4 million, a seven-fold increase over 1982.

U.S. PAPER/FOREST PRODUCTS RESULTS

	Full year ($000)			
Paper companies	**Sales**	**Change 1983/82**	**Earnings[1]**	**Change 1983/82**
Chesapeake	$273,735	14.1%	$8,470	4.6%
Consolidated	573,346	8.1	48,975	8.8
Crown Zellerbach	2,708,600	−8.1[2]	87,800	585.9[3]
Federal Paper	568,999	11 6	12,458	−22.5
Fort Howard	785,976	46.4	106,980	15.8
Glatfelter	257,091	3.9	20,583	3.5
GN Nekoosa	1,565,000	9.5	84,000	7.0
Hammermill	1,622,695	16.2	32,548	7.6
Intl. Paper	4,357,100	8.5	254,900	58.5[4]
James River (10/23)[5]				
Kimberly-Clark	3,274,300	11.1	188,800	−4.4[6]
Longview (10/31)[5]	373,391	0.5	17,321	386.7
Mead	2,366,600	11.2	30,000	n.m.[3]
Pentair	319,289	17.8	11,916	13.4
St. Regis	2,774,578	8.6	55,181	22.5
Scott	2,465,088	7.5	123,679	66.1
Sonoco	668,628	24.1[7]	33,534	17.3
SW Forest	636,415	19.2	(29,821)	n.m.
Union Camp	1,688,254	17.6[7]	132,736	7.0
Wausau (11/30)[5]				
Westvaco (10/31)[5]	1,493,412	3.0	62,789	−0.5
Willamette	1,045,669	12.6	18,197	240.4
Total	**29,818,184**	**9.2**	**1,301,046**	**40.4**
Forest products				
Boise Cascade	$3,450,890	18.5%	$60,380	732.8%
Champion Intl.	4,263,999	14.1	82,160	107.2
Georgia-Pacific	6,469,000	19.8	105,000	101.9
Louis.-Pacific	1,101,980	26.3	23,120	n.m.[3]
Pope & Talbot	287,684	11.6	10,887	151.6
Potlatch	906,745	10.6	40,467	79.6
Weyerhaeuser	4,882,629	16.6	204,843	21.3
Total	**21,362,927**	**17.5**	**526,857**	**89.5**
U.S. total	**51,181,111**	**12.5**	**1,827,903**	**51.7**

1. Income after taxes, from continuing operations, excluding most significant nonrecurring items in both years.
2. 1982 sales include CZ Canada interest sold effective Dec. 31, 1982. Earnings do not include net after-tax charge of $125 million from CZ Canada sale and restructuring of domestic operations.
3. Not meaningful due to loss in 1982.
4. 1982 income includes pretax gain of $26.7 million from sale of tax benefits. 1983 income includes pretax gains of $60.2 million from land sale and $63.5 million from sale of timber.
5. Period ended. James River figures are second quarter; Wausau first.
6. 1982 earnings include $13.9-million gain from exchange of securities and $8.3-million gain from woodlands sale.
7. 1982 figures restated by company.

( ) = loss. n.m. = not meaningful.

LABOR

B.C. industry idled by lockout

Twenty of British Columbia's pulp and paper mills were closed down Feb. 2 as the industry implemented a lockout of its two pulp and paper unions. The previous week, the industry's bargaining agent—the Pulp & Paper Industrial Relations Bureau—had indicated it would lock out the Canadian Paperworkers Union and the Pulp & Paper Workers of Canada if they didn't agree to resume negotiations soon.

Monday, Jan. 30, the PPIRB gave the required 72 hours lockout notice. Later that day, the PPWC said it was willing to return to the bargaining table on Feb. 15, but the PPIRB indicated the date was too far in the future. Earlier in January the CPU said it would set a meeting for the resumption of talks when its delegates met on Feb. 13.

As the mills completed their shutdowns, the PPIRB indicated it was still willing to negotiate even while the mills were idle.

Negotiations have dragged on more than nine months, and the industry feels the unions are stalling to enable West Coast talks to coincide with the start of eastern Canadian bargaining this spring. The two sides have not met since before the two pulp unions rejected the industry's proposal in December. The International Woodworkers of America subsequently ratified an upgraded version of that three-year package by 68.1% (*P&P*, Feb., p. 29).

As the lockout continued later in February, sawmills and related operations throughout the province were idled, observers reported.

Although Canadian Paperworkers Union and Pulp & Paper Workers of Canada members have not resorted to picketing of secondary operations, related facilities have been idled for other reasons.

Workers at sawmills adjacent to mill sites have refused to cross picket lines in some cases, and elsewhere operations have closed as chip demand has disappeared. Tugboat operators in the province also are affected, and further curtailments are expected if the lockout continues, observers feel.

One analyst estimates that a shutdown of more than two weeks will firm pulp prices and a longer curtailment will send prices soaring. Little if any pulp or newsprint is being shipped, as most firms' warehouses are at mills, observers say.

The unions, however, appeared amenable to a settlement, and the lockout could end fairly soon if talks progress as expected. CPU wage delegates were meeting Feb. 13. The following day, CPU and PPWC negotiators were to convene to decide their course of action. The two unions are "cooperating," and further talks could be held jointly, said Art Gruntman, CPU West Coast vice president.

Gruntman said he will recommend the unions return to the bargaining table even while the lockout continues. Several of the CPU's locals, however, have refused to continue talks "until the locks are lifted," said Gruntman. "But I don't think that sentiment will prevail. At least I hope not," he added.

British Columbia produces 50% of Canada's market pulp and 14% of world supply, according to Brian McClay, manager of the woodpulp section of the Canadian Pulp & Paper Assn. An estimated 13,000 short tpd of market pulp and 6,300 tpd of newsprint have been taken off the market as a result of the lockout, a *Pulp & Paper Week* tabulation shows.

The 20 mills in the province that are idled by the lockout are all PPIRB members. Another four mills in British Columbia, which are not PPIRB members, continue to operate.

CPU sets eastern bargaining priorities

Canadian Paperworkers Union delegates voted last month to make job security the top priority and to seek a one-year term for new labor agreements negotiated in eastern Canada this year, the union indicated. The one-year term is meant to allow contracts in both eastern and western Canada to expire in the same year, said CPU president James Buchanan.

In British Columbia, where negotiations have dragged on for the past nine months, the CPU seeks a two-year contract expiring in 1985. Labor agreements in eastern Canada expire this Apr. 30.

At the recent CPU wage conference, which was held to determine bargaining goals *(Continued on p. 27)*

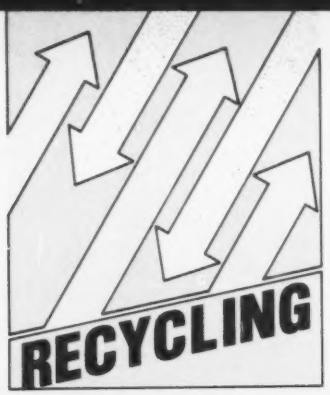
British Columbia mills affected by lockout

Company	Mill	Capacity[1]	Union
BCFP	Crofton	925 pulp[2]	
		1,390 newsprint	CPU, PPWC
	Mackenzie	545 pulp	CPU
BC Timber	Castlegar	590 pulp	PPWC
	Prince Rupert	1,200 pulp	PPWC
Canadian Forest	Port Mellon	525 pulp	CPU
Cariboo	Quesnel	750 pulp	CPU
Crestbrook	Cranbrook	475 pulp	PPWC
Crown Forest	Campbell River	590 pulp[1]	
		1,325 newsprint	CPU
Eurocan	Kitimat	145 pulp[1]	
		770 linerboard	CPU
Finlay	Mackenzie	450 pulp	CPU
Intercontinental	Prince George	645 pulp	CPU, PPWC
Mac. Bloedel	Nanaimo	800 pulp	PPWC
	Port Alberni	205 pulp	
		1,110 newsprint	CPU
	Powell River	550 pulp	
		2,490 gwd. spec. and newsprint	CPU
Northwood	Prince George	1,050 pulp	CPU, PPWC
Prince George	Prince George	810 pulp	CPU, PPWC
Tahsis	Gold River	700 pulp	PPWC
Western Forest	Port Alice	450 pulp	CPU
	Squamish	460 pulp	PPWC
Weyerhaeuser	Kamloops	1,200 pulp	PPWC

Mills not locked out

Belkin Packaging	Burnaby	550 recyc. board	CPU
Island Paper	New Westminster	110 fine papers	CPU
Quesnel River	Quesnel	500 pulp	non-union
Scott	New Westminster	160 tissue	CPU

1. Short tpd. 2. Market pulp only.
CPU = Canadian Paperworkers Union. PPWC = Pulp & Paper Workers of Canada



Wastepaper stages sharp recovery: prices are strong, demand stable

Analysts see demand for paper stock keeping pace with production; secondary fiber consumption will rise; OCC could be in short supply

By DEBRA A. ADAMS, News Editor

■ Wastepaper appears poised for a profound recovery in 1984 and beyond, according to most market observers. Prices should continue rising for some grades and remain strong for others. Demand will be relatively stable and firm, with possible shortages later in the year if export markets continue to improve.

Secondary fiber collection will have to increase about 5% this year compared with last year to keep up with spiraling demand, according to J. Rodney Edwards, the American Paper Institute's vice president of paperboard. A record 20 million short tons of paper stock will be turned into paper and paperboard in 1984, he estimates.

And for the rest of the 1980s, U.S. paper stock demand will show strong growth, according to a study by Data Resources Inc. A projected sharp rise in export shipments will put additional pressure on domestic supplies, driving up secondary fiber prices. DRI projects that over the next decade exports will rise 75% above their most recent peak in 1980.

Canadian wastepaper usage is expected to rise to 1.3 million tons in 1983 compared with 1.26 million tons in 1982, according to one market observer.

Domestic demand for paper stock should keep pace with the growth rate of paper and board production over the next 11 years, which DRI expects to rise 37% by 1993. Secondary fiber demand will go up 40% to 20.7 million tons.

Waste Paper—the Future of a Resource, 1980-2000, a study by Franklin Associates Ltd., projects wastepaper will comprise approximately 23.7% of the raw materials used to produce an estimated 108.9 million tons of paper and board in the U.S by 2000, compared with 22.8% of the fiber furnish used to make 66.1 million tons in 1980. In the same period, woodpulp as a percentage of fiber furnish will drop to 75.3% from 76%, and use of other fibers will remain at about 1%, the Franklin study notes.

MORE SECONDARY FIBER. More secondary fiber and proportionally less virgin pulp will be used in the next 20 years as a result of worldwide pulp capacity not keeping pace with demand, according to the Franklin report. Virgin fiber shortages have led mills overseas to build deinking facilities and use more paper stock. This trend is likely to continue, drawing more secondary fiber from the U.S. market, the study indicates.

Edwards expects the export market for paper stock will rise in 1984 by 2% to 5% over 1983's projected record of 2.6 million tons. The DRI report also projects a recovery in export markets beginning in 1984 through

TABLE 1: **U.S. wastepaper prices by region ($/short ton, f.o.b. seller's dock).**

Grade	New York City	Chicago	Atlanta	San Francisco/ Los Angeles
Mixed paper (1)	$15-20	$15-20	$20-25	$30-35
Boxboard cuttings (4)	34-45	45-50	45	45
News (6)	40-45	50-55	45-50	50-60
Corrugated containers (11)	45-50	60	60	75-85
New double-lined kraft corrugated clippings (13)	70	75-80	80	90-110
White news blanks (24)	120-125	130-135	115-130	130
Hard white shavings (30)	210-215	210-220	210	195
Hard white envelope cuttings (31)	240-245	260-270	235	230
Manifold colored ledger (39)	105-120	100-110	80-100	65
Manifold white ledger (41)	130-135	120-130	94-130	120
Computer printout (42)	170-175	160	155	190
Coated book stock (43)	45-50	45-50	45-50	40

Numbers after each grade correspond to definitions in the current Paper Stock Institute of America *Standards & Practices Circular* (PS-83). These are paper and board mill purchase prices, f.o.b. seller's dock, exclusive of delivery charges and represent contract rather than spot or premium sales. Prices quoted may not reflect actual transactions, but represent estimates of current market conditions as obtained from representative sources.

1986 but a decline in 1987. During the next decade, paper stock exports are expected to grow an average of 6% a year and by 1993 reach 4.6 million tons, 75% above the last peak in 1980.

The Franklin report estimates wastepaper exports will rise to 4.45 million tons by 2000, from 2.644 tons in 1980. The U.S. will remain the major source of secondary fiber for most of the world, the study notes.

Earlier this year, export activity was having a substantial impact on pulp substitute markets. Demand began to rise steadily late in 1983 as virgin pulp prices started to firm.

In the Midwest in January, hard white envelope cuttings prices rose as much as $20 to $270, and white news blanks were up $10 to $130-$135. Some observers felt pulp subs prices might go up in February, particularly in the coastal regions where interest from overseas buyers was on the rise.

High-grade deinking prices were also firm in January in many areas of the country. In the Midwest, lightly printed bleached sulfate prices were up $10 in January, and some mills increased manifold white and colored ledger prices by $5.

One small northeastern mill increased ledger prices by $5 in January, but market observers were still uncertain if other mills would support the hike. Some of the strength in the high-grade deinking market was still due to a lack of supply rather than substantially improved demand.

HIGH GRADES RECOVER LAST. Pulp subs and other high grades have been the last to recover from two years of depressed demand and low prices. The recovery in the wastepaper market began with the low grades nearly a year ago.

Last spring saw a panic in the market, with mills scurrying to restock their old newspaper and old corrugated container inventories in anticipation of improved business activity. But by January those markets appeared to be weakening somewhat. Some attributed the decline to a market correction, considering how high some prices had shot up since last spring.

In the Southeast, OCC dropped $5 to $55-$60/ton in January, but it was expected to level off at that price for some time. The deterioration in the OCC market also caused mixed papers to go down $5 to $20-$25, and new double-lined kraft corrugated cutting prices were also weakening.

In the Northeast and Midwest, OCC prices were expected to drop $5 last December but instead remained steady through January, and no change was anticipated in February. In fact, some felt prices could go up in February if export demand continued to improve.

On the West Coast, overseas demand for OCC rose sharply in the first few weeks of the year. Export prices were up $5 in January, and some observers expected they might rise again another $5 in February. Domestic mills also appeared to be on the verge of increasing prices $5-$10.

News export prices were also up in January—$10 on the West Coast. Prices for over-

Newspaper is offloaded from pickup truck to trailer, which will take it to a nearby recycling center.

TABLE 2: **Growth in apparent available supply, 1982 to 1993, (compound growth rate).**

	Northeast	North Central	West	South	Total U.S.
News	2.2	2.5	3.6	3.7	3.1
Container	1.8	1.5	3.0	2.8	2.3
Mixed	1.5	1.2	2.8	2.7	2.1
Pulp substitutes	2.4	2.4	3.4	3.6	3.0
Deinking	3.0	2.2	3.7	3.6	3.2
Total	1.9	1.7	3.1	3.0	2.5

Source: Data Resources Inc.

TABLE 3: **Waste corrugated demand summary.**

	1974	1982	1993
Demand for paper and board (000 short tons)	5,853	6,697	9,526
Demand by grade (%)			
In newsprint	0	0	0
In printing and writing	0	0	0
In tissue	2	2	2
In packaging and other paper	1	2	2
In kraft board	7	16	24
In semichemical board	13	18	22
In recycled board	72	57	44
In building paper and board	5	5	6
Export demand (000 short tons)	552	887	1,999
Export by country (%)			
To Canada	13	0	9
To Mexico	16	10	11
To Korea	10	17	23
To Italy	5	18	4
To Taiwan	6	6	20
To Venezuela	8	12	9
To Japan	21	7	5
To Other	21	20	20
Imports (000 short tons)	13	11	12
Total wastepaper recovered (000 short tons)	6,392	7,573	11,514

Source: Data Resources Inc.

Newspaper moves up twin conveyors toward pulpers at Garden State Paper's mill in, Garfield, N.J.

seas buyers were expected to remain stable in February, but domestic mills seemed to be gearing for a price increase of $5 in February if export demand remained strong and wastepaper collections did not pick up significantly in the interim, said some observers.

OCC and old news are the primary export items in the secondary fiber market, and studies indicate they will retain that position.

OCC TO MAINTAIN LEAD. OCC is expected to remain the largest volume grade of secondary fiber consumed, increasing to 13.5 million tons in the year 2000 from 6.9 million tons in 1980. Paperboard mills, however, will be reducing their consumption until 1990 and then gradually increasing their orders, but will only reach the 1970 level by 2000, according to the Franklin report.

Old news demand will rise to 4.4 million tons from 2.6 million tons. Orders for pulp substitutes and deinking grades will not increase as rapidly, according to the Franklin study. Old news consumption will be boosted by an increase in the number of deinking mills. The percentage of old news used in domestic production is forecast to rise to 25% in 2000 from 19.2% in 1980, Franklin Associates forecasts.

In 1973, three mills using 100% old newspapers in their furnish produced 312,000 tons of newsprint. In 1982, five mills using 100% old newspapers made 723,000 tons, and four mills using 25% or more old newspapers made 900,000 tons, according to Great Eastern Packing & Paper Stock Corp.

Demand for old newspapers should rise along with the increase in consumption of newsprint. Allowing for a 2.5% average annual real growth in the economy, consumption should rise to 13.4 million tons by 1990, an increase of 19.3%, Great Eastern indicated.

Consumption of pulp subs and high-grade deinking will not rise as much as the lower grades, the Franklin forecast indicates. Those levels will rise only slightly over the next two decades. The lower

TABLE 4: **Estimated growth rates and percentage changes in U.S. wastepaper exports to major export markets.[1]**

Country	Best estimate	Jan.-Nov. 1983[2] exports (short tons)
Korea	3 yr-10%, 3 yr-5%, 2 yr-3%	511,163
Taiwan	3 yr-5%, 3 yr-2%, 2 yr-flat	495,313
Japan: 1985	(−) 10%	229,427
1990	(−) 10%	
Canada	1 yr-3%, 4 yr-flat, 5 yr-1%	317,296
Mexico	3 yr-6%, 3 yr-4%, 2 yr-2%	440,399
Italy: 1985	(+) 10%	50,887
1990	(+) 20%	
Venezuela: 1985	(−) 10%	90,819
1990	(−) 20%	

1. Growth rates and percent changes are with respect to 1980 export levels. Growth rates are shown for 8-year periods for all nations except Canada because it was assumed that the export levels of 1980 would return in 1982 following an off year in 1981. Canada did not experience the large decrease in 1981, therefore 10 years of growth from 1980 was calculated.
2. Source: National Assn. of Recycling Industries from Dept. of Commerce.
Source: Franklin Associates Ltd.

TABLE 5: **Total U.S. wastepaper recovery by grade of wastepaper, 1970 to 2000 (000 short tons).**

Year	Total wastepaper recovered[1]	Grade of wastepaper recovered				
		Mixed	News	Corrugated	Pulp substitutes	High-grade deinking[2]
1970	12,562	2,749	2,445	4,235	2,282	851
1971	12,899	2,887	2,405	4,441	2,275	891
1972	13,699	3,170	2,557	4,876	2,243	852
1973	15,189	3,426	2,903	5,551	2,363	946
1974	15,689	3,431	2,854	6,212	2,298	892
1975	13,072	2,822	2,416	5,083	1,949	803
1976	15,419	3,140	2,821	6,132	2,393	934
1977	16,348	3,173	3,081	6,827	2,330	944
1978	16,791	3,148	2,862	7,291	2,332	1,158
1979	18,025	3,241	3,160	7,916	2,458	1,250
1980	18,051	2,862	3,359	8,062	2,450	1,318
1985	20,735	3,230	3,775	9,520	2,620	1,590
1990	23,960	3,505	4,350	11,305	2,835	1,965
2000	30,590	4,020	5,465	15,370	3,220	2,515

1. Total wastepaper recovered is the sum of wastepaper use in the paper industry, other uses, and exports less imports.
2. Pulp substitutes and high-grade deinking prior to 1976 were allocated by FAL on the basis of 1976 data; prior to that API data combined the two categories.
Source: Franklin Associates Ltd.

grades will benefit from technical improvements in wastepaper pulping during the next decade. This will allow mills to use more lower quality secondary fiber, and make it more economical to substitute wastepaper for woodpulp.

Moreover, growth in the lumber industry is expected to be only slight—even flat—due to reduced housing activity anticipated for the next two decades. This will lower the amount of wood residues available for pulping and put additional strains on recyclable paper supplies, according to the Franklin study.

The share of wastepaper in the furnish of most grades will continue to rise over the next 11 years, with the most notable increases taking place in newsprint, tissue, semichemical board and building boards, according to the DRI study.

In the Canadian market, the sanitary paper industry appears to hold the most promise for wastepaper recyclers. That industry didn't experience any downtime in 1982, and 1983 was expected to be an excellent year as well. These mills will continue to rely almost totally on the U.S. for their ledger grades, according to one close industry observer.

Over the last 10 years, while most grades of paper and board experienced a rising share of wastepaper in their furnish, the grades that use the highest percentage of wastepaper (recycled board, building papers, and boards) showed very low growth in demand.

Recycled board accounted for about 48% of U.S. paper industry wastepaper consumption in 1982, but this grade is expected to account for only 37% in 1993, according to DRI. Flat or slow growth in the recycled board segment should not put much pressure on wastepaper supplies during the next two decades, according to the Franklin report.

Mills that produce semichemical paperboard are expected to increase their use of wastepaper to 25% by 2000 from 20% in 1980, with a swing toward more corrugated and less box plant cuttings as mills install more sophisticated bleaching equipment, according to the Franklin report.

Production of unbleached kraft paperboard during the 1970s increased just 4% to 6% but is forecast to grow to 16% by 2000. Research on the use of corrugated continues and could result in even higher demand for corrugated from this segment of the industry, the Franklin report notes.

Some industry observers expect OCC will be in short supply for several years to come as more mills producing paperboard convert to using more secondary fiber. In an effort to avoid any possible shortages of OCC, the paper recycling division of the American Paper Institute has formed a special committee to investigate ways to increase OCC collections. ■

TABLE 6: **Total wastepaper demand summary.**

	1974	1982	1993
Demand for paper and board (000 short tons)	14,712	14,795	21,015
Demand by grade (%)			
In newsprint	3	8	9
In printing and writing	6	6	7
In tissue	8	12	12
In packaging and other paper	2	2	2
In kraft board	4	8	13
In semichemical board	6	9	11
In recycled board	59	48	37
In building paper and board	12	7	9
Other wastepaper demands	170	150	398
Export demand (000 short tons)	1,383	2,224	4,659
Export by country (%)			
To Canada	14	12	12
To Mexico	13	15	12
To Korea	12	23	25
To Italy	8	3	4
To Taiwan	4	21	24
To Venezuela	8	6	5
To Japan	16	5	4
To Other	25	15	14
Imports (000 short tons)	67	74	101
Total wastepaper recovery (000 short tons)	16,198	17,095	25,970

TABLE 7: **Total wastepaper regional demand summary.**

	1974	1982	1993
Demand for paper, board, and other (000 short tons)	14,882	14,945	21,060
Demand by grade (%)			
South	22	30	[illegible]
Northeast	30	21	17
North Central	36	34	29
West	12	15	17
Export demand (000 short tons)	1,383	2,224	4,659
South	35	26	18
Northeast	21	23	22
North Central	3	2	1
West	31	49	59
Imports (000 short tons)	67	74	101
By region (%)			
South	0	0	0
Northeast	31	34	33
North Central	57	47	40
West	12	19	27
Net trade between regions (000 short tons)			
By region (%)			
South	262	94	−571
Northeast	−159	−31	248
North Central	−259	78	605
West	156	−141	−282
Total wastepaper recovered (000 short tons)	16,198	17,095	24,470
By region (%)			
South	25	30	32
Northeast	29	21	18
North Central	31	30	27
West	15	19	23

Source: Data Resources Inc